

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A cooling system for a portable computer comprising:

a frame having a heat-source connecting unit in contained within a first side and having a fan housing unit in a second side;

a dissipating unit on one side of the fan housing unit of the frame that is configured to perform heat exchange;

a dissipating fan within the fan housing unit configured to form an air stream that would pass through the dissipating unit from inside the fan housing unit; and

a cooling unit coupled to the first side of the frame and configured to deliver heat from the heat-source connecting unit to the dissipating unit, wherein the cooling unit is a micro cooling unit configured to perform heat exchange using a cooling cycle caused by phase change, and wherein the micro cooling unit has an internal circulation loop that comprises,

a liquid coolant moving block configured to return coolant to a beginning of a liquid phase transition block from an end of the liquid phase transition block, and

an insulation block between the liquid phase transition block and liquid coolant moving block.

2. Canceled

3. (Currently Amended) The system as claimed in claim-1 16, wherein the cooling unit is a plate-heat pipe that covers one side of the frame.

4. Canceled

5. (Currently Amended) The system as claimed in claim-4 16, wherein the cooling unit is plate-shape and approximately 1 mm thick.

6. (Original) The system as claimed in claim 1, wherein the heat source connecting unit is configured to thermally couple to a main board, and wherein when the frame is removed a processor mounted on the main board is exposed.

7. (Original) The cooling system as claimed in claim 1, wherein the frame and the cooling unit provide two heat removing paths to the dissipating unit.

8. (Currently Amended) A cooling system for use in a portable computer comprising:

a dissipating plate having a dissipating fan in its one side and having a settle-down groove in its inside;

a settle unit coupled to a lower surface inside of the settle-down groove in the dissipating plate;

a micro cooling system having a first side coupled to an upper surface of the settle unit and a second opposite side configured to face a processor, wherein the micro cooling system is configured to perform heat exchange by repeating a cooling cycle of condensation and evaporation using a capillary phenomenon to transfer heat arising from the processor, wherein internally the micro cooling system comprises,

a liquid coolant storage block at one end,

a evaporation block having first size channels coupled to the liquid coolant storage block,

a gaseous coolant moving block coupled to the evaporation block, and

a condensation block having second channels larger than the first channels coupled to the gaseous coolant moving block.

9. (Original) The system of claim 8, wherein the dissipating plate is fastened to a main board in an inside of the portable computer.

10. (Currently Amended) The system of claim 9, wherein the dissipating plate is configured to removably provide access to a processor mounted on the main board comprising a coil spring that gives elastic force to a screw joining between the dissipating plate and the main board.

11. (Original) The system of claim 10, wherein the micro cooling system is thermally coupled to the processor when the dissipating plate is fastened to the main board, and wherein the micro cooling system adjacent to the processor is an identical material.

12. (Original) The system of claim 11, wherein the dissipating plate surrounds the processor to perform radiation cooling of an enclosed space.

13. Canceled

14. (Currently Amended) The system of claim 8, wherein the settle unit and the micro cooling system are joined each other by brazing, and wherein a plurality of guide protuberances is formed on an outer periphery of combine with the settle unit to position the processor.

15. (Currently Amended) The system of claim 8, wherein the micro cooling unit has a plurality of guides in a liquid coolant moving-block, wherein the first and second guides couple a transfer region the liquid coolant moving block to a the liquid coolant storage block and a the liquid coolant condensation block.

16. (Currently Amended) A cooling system for a portable computer comprising:

a frame having a heat-source connecting unit in a first side and having a fan housing unit in a second side, wherein the frame forms a bottom surface and sides of the fan housing unit;

a dissipating unit on one side of the fan housing unit of the frame that is configured to perform heat exchange;

a dissipating fan with the fan housing unit configured to form an air stream that would pass through the dissipating unit from inside the fan housing unit; and

a plate-heat pipe on-coupled to one side of the frame and-to form a top surface of the fan housing unit, wherein the plate-heat pipe is configured to contact a heat source to deliver heat from the heat source connecting unit to the dissipating pin-unit by circulating a fluid through its inside.

17. (Currently Amended) The system of claim 16, wherein the plate-heat pipe completely shields one side of the fan housing unit heat source connecting unit is configured to transfer heat from the heat source through the frame to the dissipating unit.

18. (Currently Amended) The system of claim 16, wherein the dissipating fan assembly is installed in a space partitioned by the fan housing unit and the plate-heat pipe and forms an air stream that collides against the plate-heat pipe and then the dissipating unit.

19. (Original) The system of claim 16, wherein the frame is fastened to a main board in the portable computer, wherein the dissipating unit is thermally coupled to a

processor in the main board, and wherein the frame and the plate-heat pipe are configured to provide access to the processor.

20. (Original) The system of claim 16, wherein the plate-heat pipe is approximately 1.5 mm thick.

21. (Currently Amended) A cooling system for a portable computer comprising:

a frame having a recess in a first side and having a fan housing unit in a second side;

a micro cooling system having a first side configured with a heat releasing part ~~coupled to~~ contained within the frame by the recess and a second opposite side configured to include a heat absorption part, wherein the micro cooling system is configured to perform heat exchange by repeating a cooling cycle of condensation and evaporation using a capillary phenomenon to transfer heat arising from the processor.

a dissipating unit on one side of the fan housing unit of the frame that is configured to perform heat exchange;

a dissipating fan with the fan housing unit configured to form an air stream that would pass through the dissipating unit from inside the fan housing unit; and

a plate-heat pipe on one side of the frame and configured to deliver heat from the frame to the dissipating unit by circulating a fluid through its inside.

22. (New) The cooling system of claim 21, wherein the micro cooling unit has first and second layers having different characteristics.

23. (New) The system of claim 1, wherein internally the micro cooling system comprises:

- a liquid coolant storage block at one end;
- a evaporation block having first size channels coupled to the liquid coolant storage block;
- a gaseous coolant moving block coupled to the evaporation block; and
- a condensation block having second channels larger than the first channels coupled to the gaseous coolant moving block.

24. (New) The system of claim 8, wherein at least a portion of the micro cooling system and the processor are integrally formed of the same material.